



Demolition of Abandoned C-7 & C-8 Basins

& Other Site Improvements at the Carrollton Water Plant

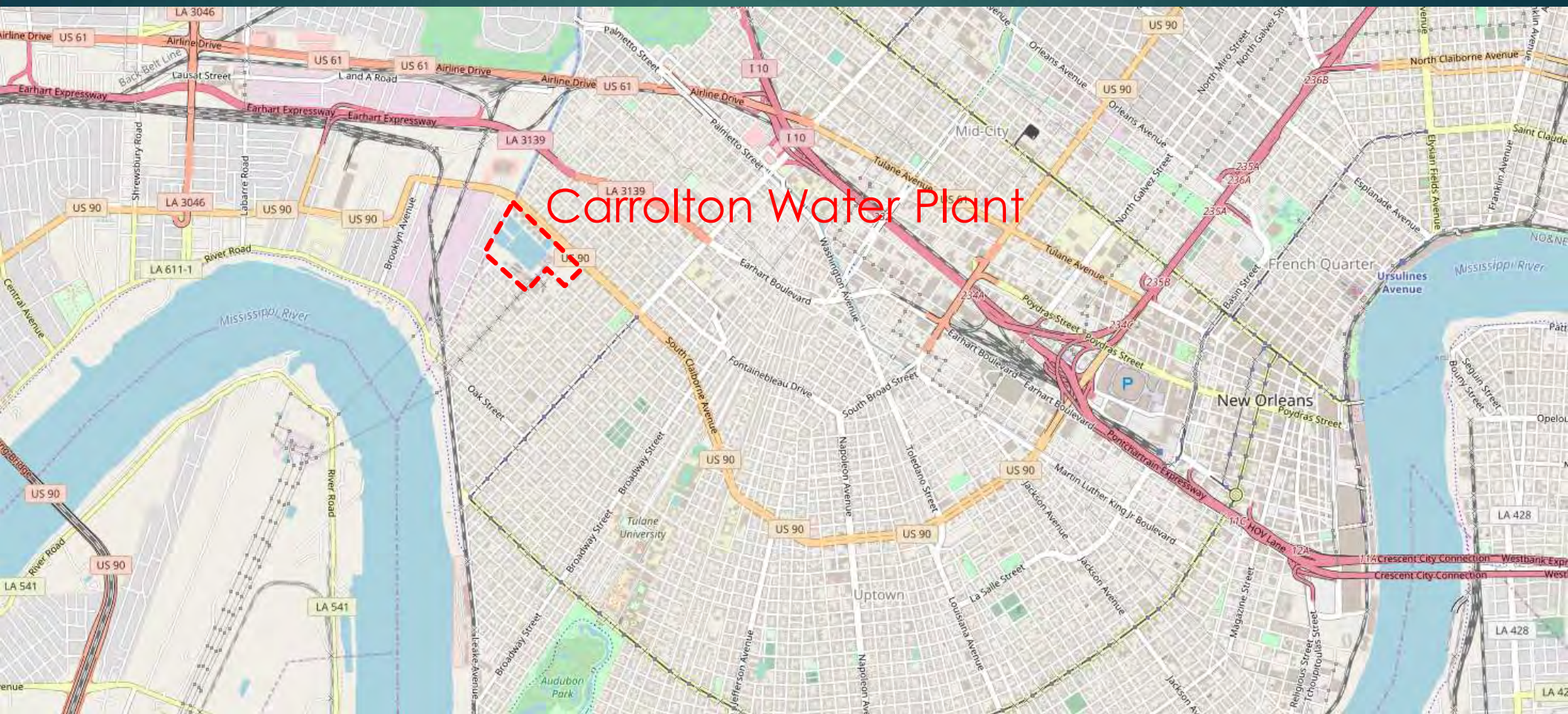
RESILIENCE REVIEW

MARCH 2018

Project Overview

- ▶ **PROJECT PURPOSE:** To provide a site for an Entergy Power Substation. The Power Substation will provide a more reliable power source for the Sewerage & Water Board of New Orleans.
- ▶ **PROJECT DESCRIPTION:** Re-develop a site at the Carrollton Water Plant which currently consists of two abandoned water treatment basins.
- ▶ **PROJECT STATUS:** 90% completion April 17th.

Existing Site



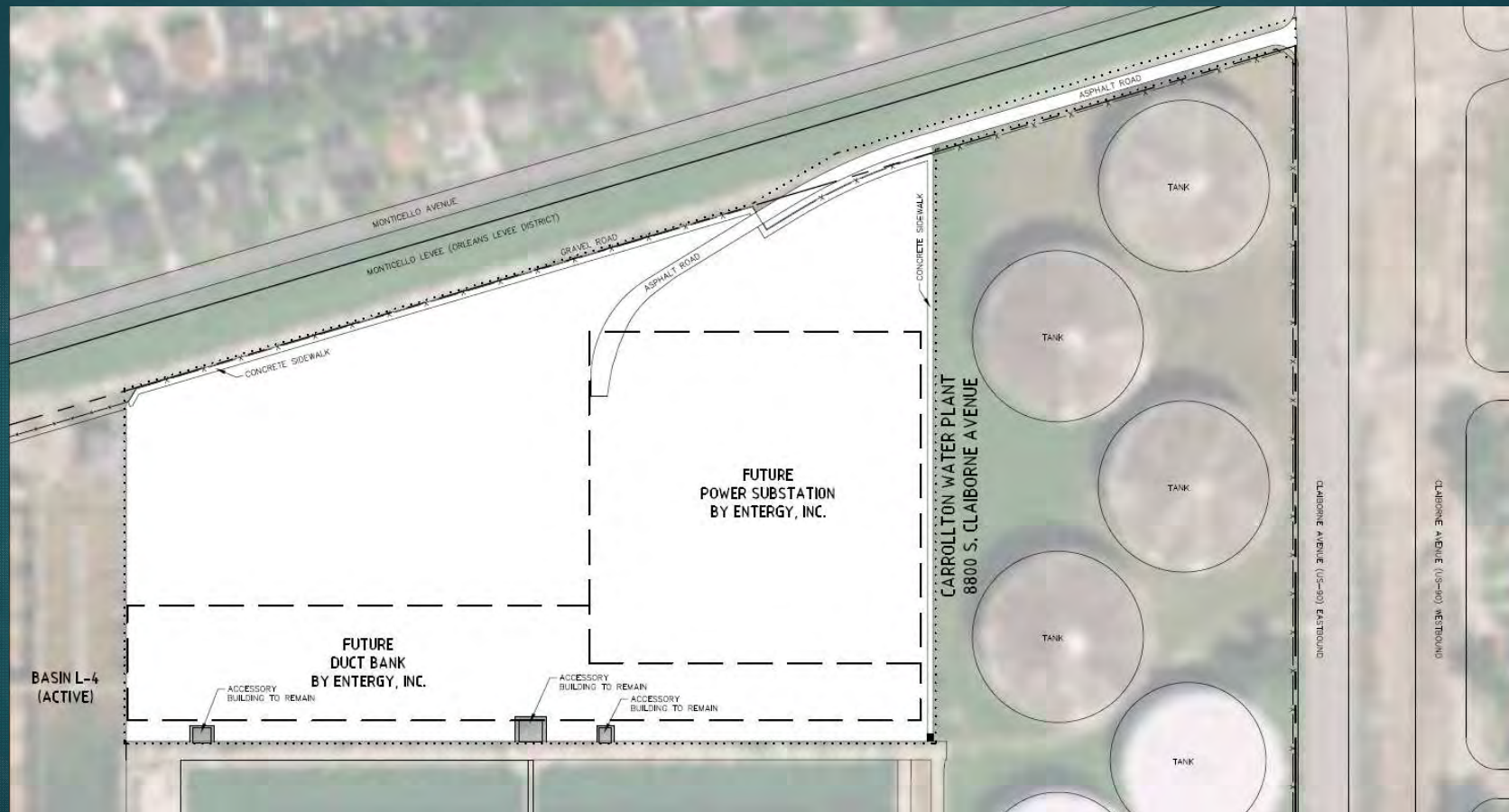
Existing Site



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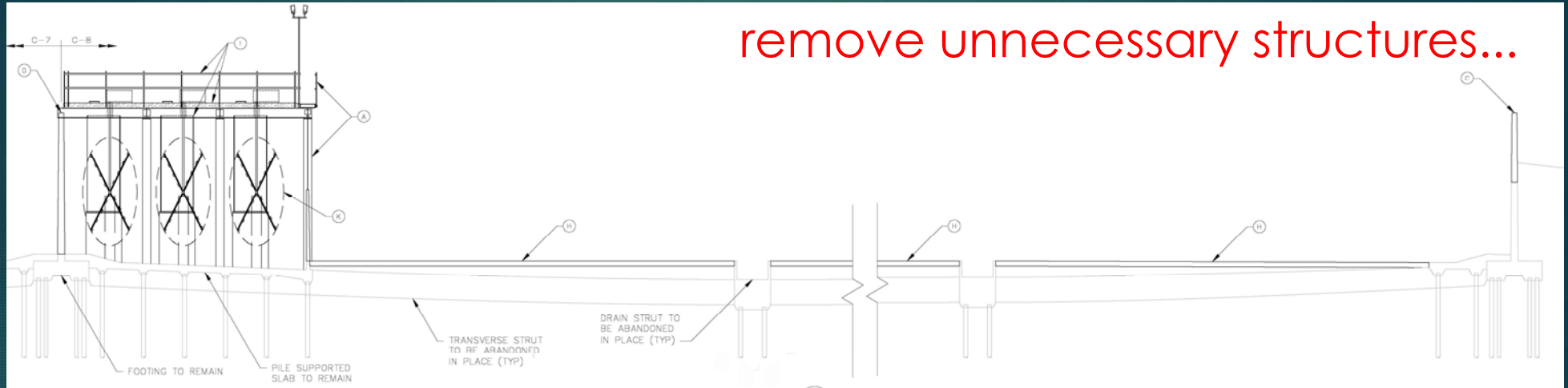


Proposed Project

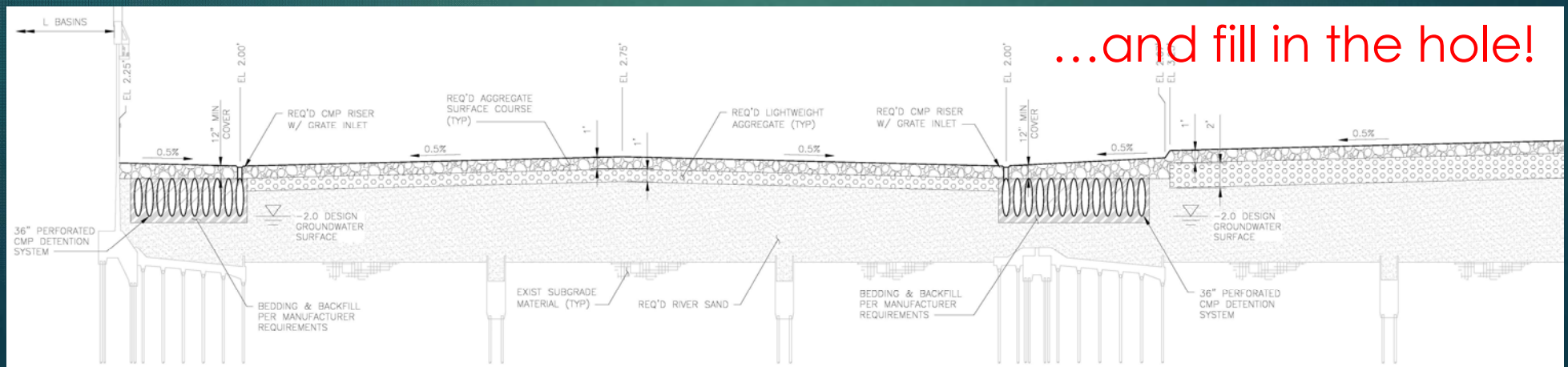


Proposed Project

remove unnecessary structures...



...and fill in the hole!



Project Challenges

- ▶ How to deal with **Dredge Material**
- ▶ How to reduce **Settlement**
- ▶ How to deal with **Stormwater**

How to deal with **Dredge Material**



How to deal with Dredge Material

Minor sediments from the water treatment process will be discharged **to the River** instead of dumped in C-8.

Existing structures will be **Re-Purposed** to create a pump station.



How to deal with Settlement

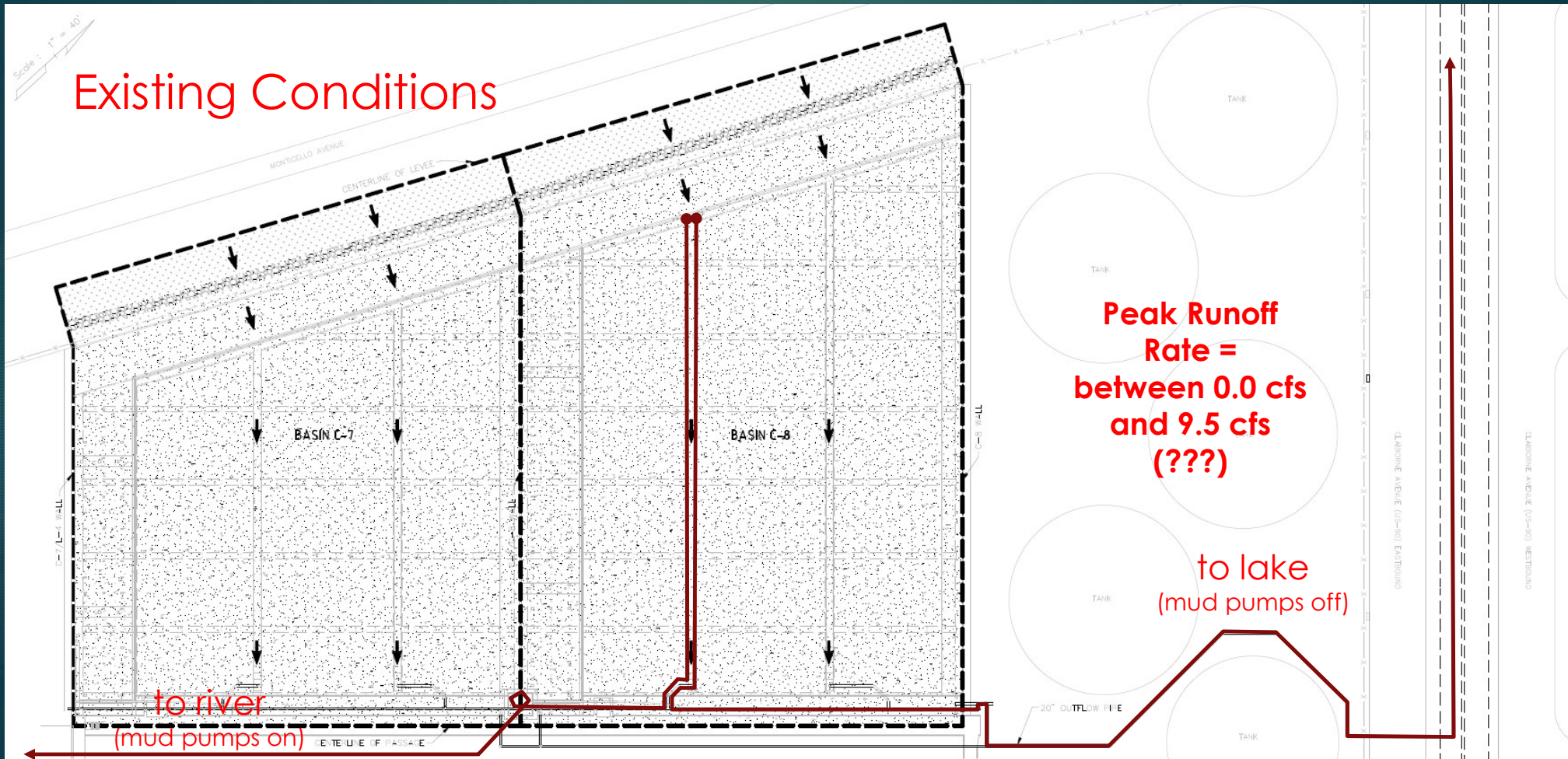
These basins were built on top of a **Cypress Swamp**. These soils are especially susceptible to compression settlement when we add heavy fill materials on top.



We will use **Manufactured Lightweight Fills** (in addition to locally available river sand) to reduce the weight of the fill.

How to deal with Stormwater

Existing Conditions



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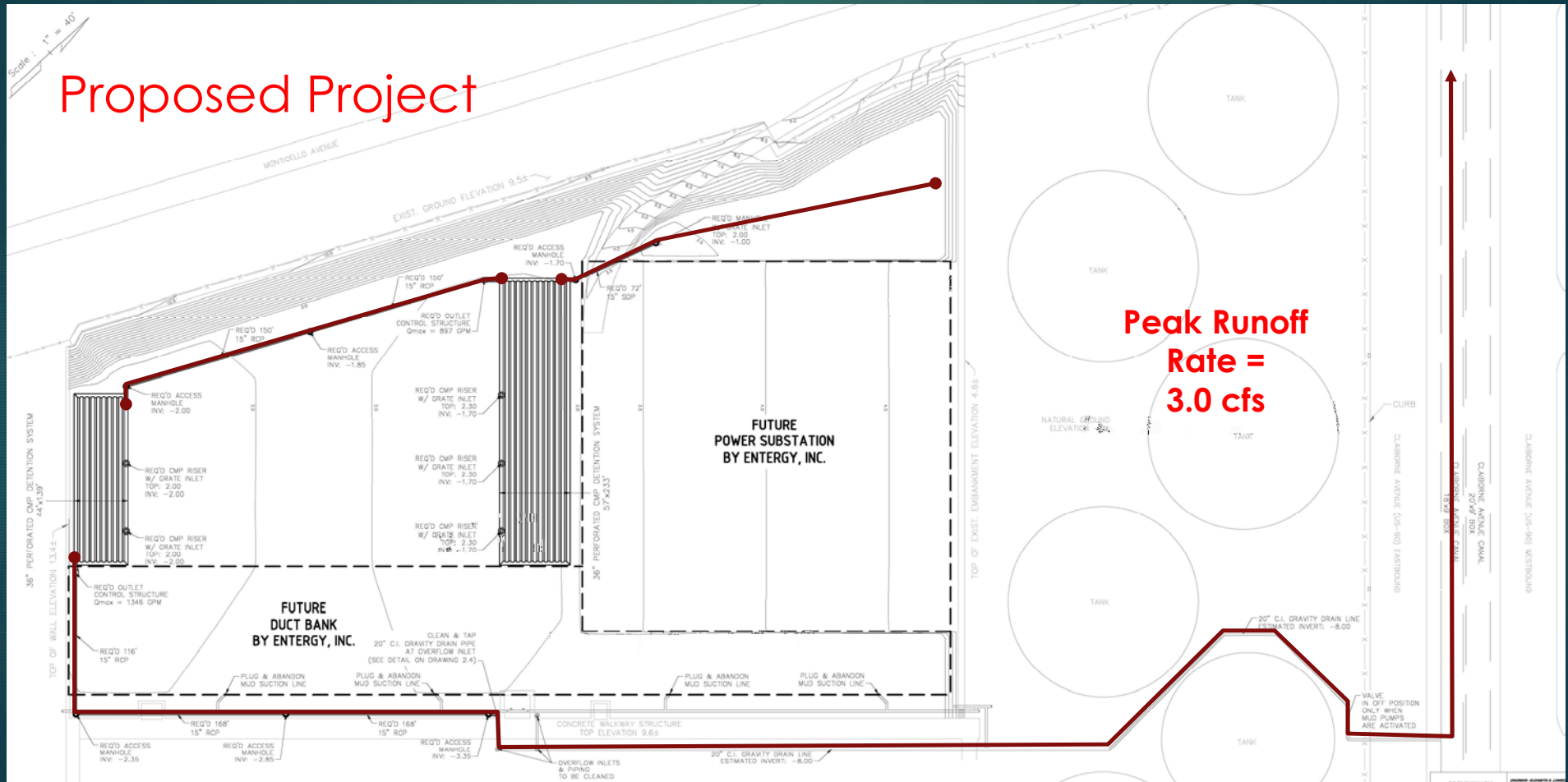
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- ▶ Place all drainage structures on pile-supported slabs and struts to remain. The pile-supported elements will see less settlement than open areas.

How to deal with Stormwater

Proposed Project



How to deal with **Stormwater**

How big of a storm did we design for?

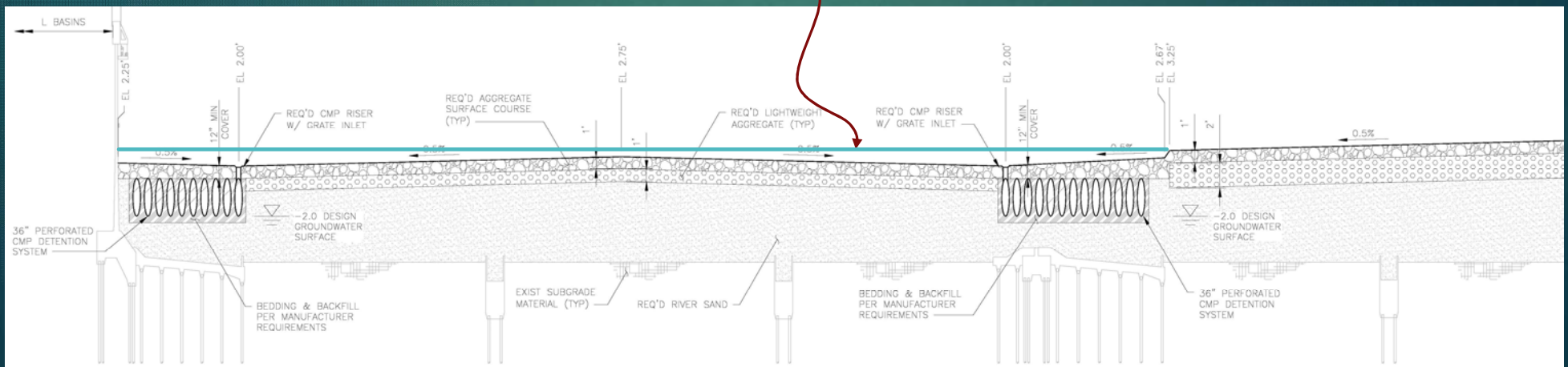
- ▶ DOTD 10-year 24-hour rainfall depth = 7.8 inches
- ▶ DOTD 100-year 24-hour rainfall depth = 12.6 inches
- ▶ NOAA 10-year 24-hour rainfall depth = 8.4 inches
- ▶ NOAA 100-year 24-hour rainfall depth = 14.5 inches

Using DOTD data, we designed to the **500** year storm.

Using NOAA data, we designed to about a **250** year storm.

How to deal with Stormwater

“Safety Factor”
Additional ponding storage



How to deal with Stormwater

Flood Resistance....

- ▶ ASCE Flood Design Class 4: *Any building or structure that contains essential facilities and services necessary for emergency response and recovery, or that pose a substantial risk to the community at large in the event of failure, disruption of function, or damage by flooding."*
- ▶ Building Elevation Requirements:
 - ▶ 100 year flood elevation + 2 feet 0 ft. + 2 ft. = 2 ft.
 - or-
 - ▶ 500 year flood elevation 0 ft.
- ▶ Finished ground level in the substation area is proposed at about **4 ft.**
- ▶ Entergy has stated that structures will be elevated even higher above grade.